

# **VERMONT PAYMENT FOR ECOSYSTEM SERVICES & SOIL HEALTH WORKING GROUP PROGRAM OBJECTIVES, ELEMENTS, AND ASSUMPTIONS**

## Vision:

A Payment for Ecosystem Services and Soil Health Program will promote climate resilience and mitigation, provide clean water, and improve the health of the broader ecosystem for all Vermonters, while also supporting the economic health of Vermonters engaged in agriculture.

## Goals:

The Payment for Ecosystem Services and Soil Health Program will:

- Compensate farmers for providing clearly defined ecosystem services.<sup>1</sup>
- Ensure that metrics and associated compensation are clearly and directly linked to the specific, quantifiable ecosystems services of carbon storage, nutrient, soil retention, stormwater retention, and ability to support biodiversity.
- Identify and pay for ecosystem services that could be provided by farms of diverse types and sizes, including those currently and historically underserved by payment programs.
- Be efficient with time and funding to ensure that a high return is provided to the farmer and society.
- Continually improve both research and the program to support agricultural innovation, adaptive management and development of new practices and tools.

## Framework:

### ***Eligibility***

1. All farmers are eligible to participate in the program if they are in good standing with the Required Agricultural Practices (RAPs). However, only those farmers who meet the standards set forth by the program will receive payments.<sup>2</sup>
2. Participation in the program will be completely voluntary.

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<sup>1</sup> The Working Group's [2020 Report to the Legislature](#) defines ecosystem services as "the conditions and processes through which natural ecosystems, and the species that make them up, sustain and fulfill human life" i.e. "the set of ecosystem functions that are useful to humans."

<sup>2</sup> Definitions and determinations for farms under the RAPs are outlined [here](#).

3. The program will strive to ensure that historically underserved producers, as defined by USDA, are encouraged to participate and provided with technical assistance to do so.<sup>3</sup>
4. Farmers will be compensated, at least in the initial year(s), for the additional workload required, including data gathering and associated paperwork, soil sampling, and time spent supporting program development and implementation.

### ***Program Phasing***

1. The program will be developed in phases to: 1) allow for initial implementation; and 2) to allow for the ability to grow in the services it pays for over time.
2. The program will start as a one-year pilot/demonstration at the scale allowed by funding in order to: 1) move action forward; 2) learn from initial implementation; and 3) provide compensation to farmers for producing ecosystem services.
3. The pilot will seek to enroll a manageable number of farms to ensure that those farms can meaningfully benefit given overall funds appropriated.
4. The pilot will seek to be representative of the outcomes the program seeks to achieve and the diversity of farms it intends to reach.
5. The pilot program will focus on outcomes in the soil (e.g., improved carbon sequestration), in the field (e.g., more diverse cover crops to support biodiversity), and at edge of field (e.g., increased stormwater retention) while considering outcomes in other parts of the farm.
6. The Working Group will stay engaged throughout the rollout and initial implementation of the pilot program to support, monitor, and provide guidance, at least through the group's statutory deadline of early 2023.
7. The Vermont Agency of Agriculture, Food & Markets will administer the pilot program given its areas of authority, expertise, staff capacity, and ability to begin implementing the program in late 2022. However, the ultimate program administrator may be a different entity.<sup>4</sup>

### ***Program Elements***

1. The program will pay for ecosystem services based on outcomes, which may be determined via real-time measurements, modeling, or a combination.
2. The program will be organized into tiers, which may include different payment levels for: 1) enrollment and basic data collection and soil testing; 2) incorporating evidence-based practices that have been demonstrated to produce ecosystem service outcomes; 3) measured outcomes in soil health and other metrics, with more extensive monitoring and sampling; 4) advanced research and/or innovation.<sup>5</sup>

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<sup>3</sup> USDA definitions for historically underserved producers are outlined [here](#).

<sup>4</sup> Note that there would need to be considerations for data privacy, which would be based on the funder's requirements rather than the administrator's.

<sup>5</sup> The California Healthy Soils Program provides funding for "demonstration projects" that research and demonstrate innovative management practices. More information on HSP demonstration projects is available [here](#).

3. The program will incorporate a research element to: 1) monitor and provide analysis for program development and adaptive management; and 2) support innovation and development of new practices and tools over time.
4. The program will track results and make improvements to the program on a periodic basis.
5. The program will compensate for outcomes that exceed stated thresholds that are higher than requirements under the RAPs, as well as improvements over baseline conditions. These parameters will be further determined during program design.
6. The program will integrate farmer learning networks and other collaborative tools for co-production of benefits and improvements to the program overall over time.
7. To the greatest extent possible, the program will seek to incorporate data interoperability with current programs to streamline existing data for efficiency and ease of use.
8. The program will coordinate with, be additive to, and be compatible with existing funding programs to the greatest extent possible.
9. The program will support farming practices that promote and protect biodiversity while keeping farmland in production.
10. The program will: 1) seek outcomes on some or all parts of the participating farms to allow entry, adaptation, and adaptation; and 2) strive to avoid or minimize “leakage” from enrolling only the best-managed fields, while others remain at low management levels. Options include: 1) enrolling a representative sample of fields from a farm; and 2) requiring that enrolled farms submit a map of all acreage for future consideration.
11. The program will ensure that 1) ecosystem services are valued through payments such that farmers’ benefit from enrolling exceeds their marginal cost; and 2) adequate technical assistance is provided to assist farmers with enrollment.
12. The pilot will identify ways to deploy technical assistance effectively and efficiently, and where possible involve existing support entities, such as conservation districts, University of Vermont Extension, farmer watershed groups, and independent providers.
13. The long-term program design will consider whether payments are permanent and annual or intended to phase out over time once behavioral changes become normalized.

### ***Program Tools***

1. A Vermont-tailored Cornell Comprehensive Assessment of Soil Health (CASH) test will be developed for the program. For the pilot, a standard or modified CASH test will be used as the Vermont-tailored version is developed.
2. Exact models to be used are to be determined but may include USDA-NRCS’ Resource Stewardship Evaluation Tool (RSET), USDA’s Agricultural Policy/Environmental eXtender model (APEX), others, or some combination. The program will also incorporate farmer-led tools (like observation and in-field tests) wherever possible.
3. The program should rely on tools that are 1) applicable to conditions in Vermont; 2) cost-effective; 3) easy-to-use; 4) able to and provide clear, measurable and direct connections to soil health and the ecosystem services identified.

### ***Payments***

1. Payments will be based on evidence-derived values that consider both society's willingness to pay (WTP) and farmer's willingness to accept (WTA).
2. Payments may be paid in a tiered, threshold manner for: 1) having a score that is equal to or greater than a stated threshold (given field, soil type, cropping type, and other conditions) to reward good practice and those already producing valued ecosystem benefits; and 2) measured improvements from their farm's baseline (given field, soil type, cropping type, and other conditions) to reward improvement. Program design will outline parameters and levels for thresholds and improvements.
3. The program and the pilot will seek to maximize funding from a variety of sources to the extent possible (state, federal/NRCS, and other sources).

### ***Farmer Engagement***

1. The program will partner with existing agencies and initiatives across the state to increase public understanding and appreciation of the role of agriculture in healthy landscapes and the importance of ecosystem services for a healthy environment and quality of life.

### ***Pilot Development Process***

1. The Working Group will develop program parameters and elements by 15 June 2022, based on discussions among the Working Group and research, case studies, and recommendations from the UVM technical services team.
2. AAFM staff and a subgroup of Working Group members will work from June-August 2022 to design the pilot program based on the Working Group's parameters and research completed under the UVM technical services contract.
3. Working Group members and interested members of the public will be kept informed via bi-weekly email updates from the program design team and will be provided opportunities for input and comment, with one week for comment when possible.
4. The Working Group will begin to engage farmers and members of the public around the program parameters and elements during the summer and into fall 2022. This document will be posted on the AAFM website. Working Group members will be encouraged to share the document within their networks including to groups such as farmer watershed groups, Vermont Healthy Soils Coalition, UVM Extension, Vermont Agriculture Water Quality Partnership, the Vermont Climate Council, the Governor's Commission on the Future of Vermont Agriculture, and others. AAFM and the Working Group may create a short set of talking points to support outreach.
5. The design team will report back to the Working Group in September 2022.
6. The Working Group will refine and hone final issues and questions with the design team during fall 2022.
7. The pilot program will then be finalized in late 2022, after which implementation will begin.